

We claim:

1. A magnetic memory configuration, comprising:

a cell array having magnetic memory cells disposed along a first direction and a second direction crossing the first direction;

a multiplicity of electrical lines disposed along the first direction;

a multiplicity of electrical lines disposed along the second direction, said magnetic memory cells in each case being disposed at crossover points of said electrical lines;

a first current supply device for supplying respectively selected said electrical lines along the first direction with a first current, said first current supply device being configured for changing over a direction of the first current; and

a second current supply device for supplying respectively selected said electrical lines along the second direction with a second current, said second current supply device setting a direction of the second current in accordance with an information item to be written.

2. The magnetic memory configuration according to claim 1, wherein said first current supply device contains a counting device for counting accesses to one of said electrical lines in the first direction and reverses a current direction after a predetermined number of accesses to said one electrical line in the first direction for an next access.

3. The magnetic memory configuration according to claim 1, wherein:

said electrical lines along the first direction are word lines; and

said first current supply device, for each one of said word lines along the first direction, contains in each case two inverters having outputs and inputs, each of said word lines disposed between said outputs of said two inverters, said first supply device further having a control device for feeding in each case one of two logic levels to said inputs of said two inverters depending on a desired current direction.

4. The magnetic memory configuration according to claim 1, wherein said first current supply device for each of said electrical lines along the first direction, contains in each case a first and a second voltage source, at least two selection transistors with controlled paths, and a control

device controlling said first and second voltage sources such that said first voltage source provides a high voltage signal and said second voltage source provides a low voltage signal which are applied to said controlled paths of said selection transistors.

5. The magnetic memory configuration according to claim 4, wherein:

said electrical lines along the first direction are word lines; and

said controlled paths have terminals and one of said word lines is connected between said terminals of said controlled paths of said selection transistors.

6. The magnetic memory configuration according to claim 1, wherein a respective one of said magnetic memory cells is disposed between one of said electrical lines along the first direction and one of said electrical lines along the second direction, and a further one of said magnetic memory cells is disposed above said one electrical line along the second direction, and a further one of said electrical lines runs above said further one of said magnetic memory cells.

7. The magnetic memory cell according to claim 6, wherein said further one of said electrical lines runs along the first direction.

8. The magnetic memory configuration according to claim 1, wherein said first current supply device for each of said electrical lines along the first direction, contains in each case a first and a second voltage source, at least two selection transistors with controlled paths, and a control device controlling said first and second voltage sources such that said first voltage source provides a low voltage signal and said second voltage source provides a high voltage signal which are applied to said controlled paths of said selection transistors.